

withdrawal of the objections and rejections set forth in the above-identified Office Action.

Initially, the title and abstract have been amended, as requested by the Examiner. Favorable consideration is requested.

Claims 1-7 were rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Without conceding the propriety of the rejection, Applicant has reworded the language questioned by the Examiner. Reconsideration and withdrawal of the § 112 rejection are requested.

Claim 6 was not otherwise rejected, but has been rewritten in independent form herein. Therefore, Claim 6 is believed to be in condition for allowance.

Claims 1-5 and 7 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,278,810 (Takahashi, et al.) or by U.S. Patent No. 5,486,395 (Murakami, et al.). This rejection is traversed.

As recited in independent Claim 1, the present invention relates to a magneto-optical recording medium adapted to be heated from a room temperature range to a medium temperature range above the room temperature range and to a high temperature range above the medium temperature range. The medium includes first, intermediate, and second magnetic layers. The second magnetic layer has a perpendicular magnetization. The intermediate layer is

between the first and second magnetic layers. The intermediate magnetic layer has a Curie temperature higher than the room temperature range, lower than the Curie temperature of the first and second magnetic layers, and in the high temperature range. The first magnetic layer has an in-plane magnetization at the room temperature range, changes to a perpendicular magnetization at the medium temperature range, and changes to an in-plane magnetization in the high temperature range when the temperature of the intermediate layer reaches its Curie temperature.

As recited in independent Claim 7, the present invention relates to a method of reproducing, with a laser beam, information recorded on a magneto-optical recording medium comprising a first magnetic layer, a second magnetic layer having a perpendicular magnetization, and an intermediate layer therebetween having a Curie temperature higher than a room temperature range, lower than the Curie temperature of the first and second magnetic layers, and in a high temperature range. The first magnetic layer has an in-plane magnetization at the room temperature range, changing to a perpendicular magnetization at a medium temperature range higher than the room temperature range and changing back to an in-plane magnetization at or above the Curie temperature of the intermediate layer in the high temperature range higher than the medium temperature range. The method includes the steps of projecting a laser beam onto the

magneto-optical recording medium from a side of the first magnetic layer, and heating the first magnetic layer with the laser beam so that the first magnetic layer has a portion in the room temperature range having in-plane magnetization and a portion in the medium temperature range having a perpendicular magnetization. The method further includes the steps of heating a portion of the intermediate layer at least to its Curie temperature so that a corresponding portion of the first magnetic layer in the high temperature range changes to an in-plane magnetization, transferring information recorded in the second magnetic layer to the first magnetic layer by exchange coupling through the intermediate layer perpendicular magnetization of the first magnetic layer and magnetization of the second magnetic layer, and reproducing the recorded information based on the magneto-optic effect of the light reflected from the magneto-optical recording medium.

With the above arrangement and method, the first magnetic layer need not inherently be capable of returning to in-plane magnetization in the high temperature range because such a return can be made possible when the intermediate layer is heated to its Curie temperature in the high temperature range. Accordingly, a broader range of materials can be used for the first magnetic layer.

Takahashi, et al. relates to a magneto-optical recording medium including a recording layer, a readout

layer, and a reading layer. Figure 1, for example, depicts a recording operation on a recording medium, including readout layer 3 and recording layer 4. However, there is no intermediate layer between the first magnetic layer and the second magnetic layer, as is recited in independent Claims 1 and 7. Thus, in Takahashi, et al. there can be no intermediate magnetic layer having a Curie temperature higher than the room temperature range, lower than the Curie temperature of the first and second magnetic layers, and in the high temperature range, as is also recited in independent Claim 1. Moreover, Takahashi, et al. does not disclose or suggest that the first magnetic layer has an in-plane magnetization at the room temperature range, changes to a perpendicular magnetization at the medium temperature range, and changes to an in-plane magnetization in the high temperature range when the temperature of the intermediate layer reaches its Curie temperature, as also recited in independent Claim 1.

Furthermore, Takahashi, et al. cannot disclose or suggest an intermediate layer having a Curie temperature higher than a room temperature range, lower than the Curie temperature of the first and second magnetic layers and in a high temperature range, as is recited independent Claim 7. Takahashi, et al. also fails to disclose the steps of heating a portion of the intermediate layer at least to its Curie temperature so that a corresponding portion of the first

magnetic layer in the high temperature range changes to an in-plane magnetization, and transferring information recorded in the second magnetic layer to the first magnetic layer by exchange coupling through the intermediate layer perpendicular magnetization of the first magnetic layer and magnetization of the second magnetic layer, as is also recited in independent Claim 7.

Thus, Takahashi, et al. fails to disclose or suggest important features of the present invention recited in independent Claims 1 and 7.

Murakami, et al. relates to a magneto-optical disk including a circular substrate, a recording layer and a readout layer. Like Takahashi, et al., Murakami, et al. describes, for example, a recording medium in Figure 1 having a readout layer 3 and a recording layer 4, but no intermediate layer therebetween. Thus, Murakami, et al. also fails to disclose or suggest those claimed features discussed above as being deficient in Takahashi, et al. Accordingly, Murakami, et al. also fails to disclose or suggest important features of the present invention recited in independent Claims 1 and 7.

Thus, independent Claims 1 and 7 are patentable over the citations of record. Reconsideration and withdrawal of the § 102 rejection are requested.

For the foregoing reasons, Applicant submits that the present invention is also patentably defined by

independent Claims 1 and 7. Dependent Claims 2-5 are also allowable, in their own right, for defining features of the present invention in addition to those recited in independent Claim 1. Individual consideration of the dependent claims is requested.

Applicant submit that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the objections and rejections set forth in the above-noted Office Action, and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 347-8100. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


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